

Notice of Allowability

Application No.

09/462,716

Applicant(s)

SCHIAVONE ET AL.

Examiner

Art Unit

Alexander G. Ghyska

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to after final amendment of 3/16/2007.
2. ☒ The allowed claim(s) is/are 14-19.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☒ Other rejected claims cancelled.

ALEXANDER GHYKA
PRIMARY EXAMINER

AV 2812

Abt Ghyska

Please enter
AG 3/27/2007

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IN THE CLAIMS:

Please cancel claims 1-13 without prejudice.

The following listing of claims will replace all prior versions and/or listings of claims in the application:

Listing of Claims:

1-13 (cancelled).

1
~~14.~~ (previously presented) A method, comprising:

forming a thin layer of thermal silicon oxide along the walls of an active area of a semiconductor device and forming a thin layer of thermal silicon oxide along the walls and bottoms of shallow trenches laterally adjacent to the active area;

depositing silicon oxide into the shallow trenches;

irradiating the silicon oxide in the shallow trenches with short wavelength light to densify the silicon oxide;

forming a thin oxide gate layer on the active area; and

depositing a gate onto the thin oxide gate layer, wherein the gate overlaps the shallow trenches.

2
~~15.~~ (previously presented) The method of claim ~~14~~, further comprising irradiating the silicon oxide in the shallow trenches with light at a wavelength less than or equal to 200 nm, with a number of photons per cm^2 greater than 10^{19} , and an energy at least equal to 9 eV.

3
~~16.~~ (previously presented) The method of claim ~~14~~, wherein the wavelength of the light is approximately 100 nm.

4
17. (previously presented) The method of claim 14, wherein irradiating the silicon oxide inhibits the formation of corner areas in the active areas.

5
18. (previously presented) The method of claim 14, further comprising irradiating the silicon oxide in the shallow trenches such that the silicon oxide in the shallow trenches has a density close to the density of the thermal silicon oxide.

6
19. (previously presented) The method of claim 14, wherein the silicon oxide layer is deposited in the trenches using a chemical vapor deposition (CVD) process.